

Beyond the Horizon: Emerging Technologies, Security Frontiers, and Gray Swans

Author: Chuck Brooks, Cybersecurity & Emerging Technology
Expert, Professor, and Author of Inside Cyber

The coming decade will not be defined by a single technological breakthrough, but by the convergence of many. Artificial intelligence, quantum computing, biotechnology, space systems, hyperconnected networks, and cyber-physical infrastructure are reshaping society at unprecedented speed. Together, these technologies promise extraordinary advances while creating complex security challenges that outpace existing governance, risk management, and leadership strategies. Beyond the Horizon explores this technological convergence through the lens of strategic security. Rather than examining emerging technologies in isolation, it reveals how their intersection creates new categories of systemic risk capable of affecting governments, critical infrastructure, businesses, and society as a whole. Central to the discussion is the concept of gray swan events—high-impact, plausible disruptions that fall between predictable risks and unforeseen black swan events. These include AI-enabled cyberattacks, quantum-enabled cryptographic disruption, cascading failures across interconnected infrastructure, and the erosion of trust in digital systems. Drawing on decades of experience in cybersecurity, enterprise risk, and national security, the book provides a practical framework for understanding the threats shaping the future. It argues that cybersecurity has evolved beyond protecting information technology—it has become the nervous system of modern civilization. As digital systems increasingly underpin energy, transportation, healthcare, finance, communications, and government, resilience—not prevention alone—will determine organizational and national success. Accessible yet authoritative, Beyond the Horizon bridges the gap between emerging technology and executive decision-making. It equips business leaders, policymakers, security professionals, and technology strategists with the insight needed to anticipate disruption, strengthen resilience, and make informed decisions in an era where technological convergence is redefining both opportunity and risk. As AI accelerates cyber threats, quantum computing challenges today's encryption, software increasingly controls critical infrastructure, and confidence in digital institutions declines, the ability to recognize and prepare for gray swan events will become one of the defining leadership skills of the twenty-first century.

TABLE OF CONTENTS

Preface

Chapter 2 Artificial Intelligence Anytime, Everywhere

Chapter 3 Quantum Computing and the Next Security Paradigm

Chapter 4 IoT, OT, and the Expanded Attack Surface

Chapter 5 Networks, Edge, and Resilience by Design

Chapter 6 Space Systems as Critical Infrastructure

Chapter 7 Sector Risks: From Aviation to Healthcare

Chapter 8 Policy, Governance, and Global Cooperation

Chapter 9 Workforce, Culture, and Behavioral Risk

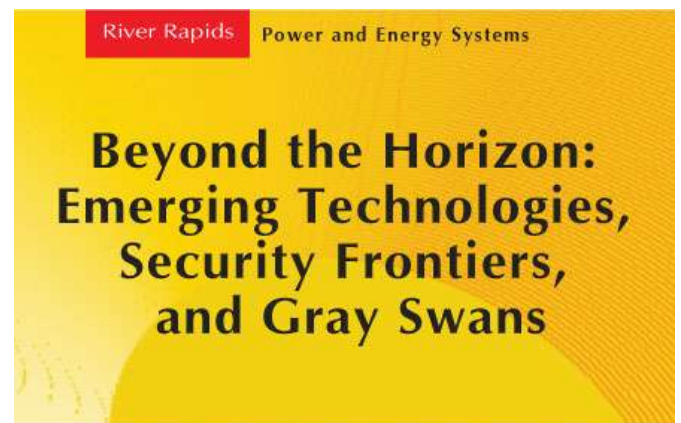
Chapter 10 Black Swans and Gray Swans: Preparing for the Unthinkable

Chapter 11 From Cyber Defense to Cyber Resilience

Chapter 12 Strategic Leadership in an Age of Uncertainty

Chapter 13 The Future of Emerging Technologies - 12 R&D Matters: Innovative Technological Domains for Government and Industry Prioritization in 2026 and Beyond

Conclusion: Examining the Future of Technology



Chuck Brooks



River Publishers Series in Power and Energy Systems

ISBN: 9788743815136

e-ISBN: 9788743815143

Available From: July 2026

Price: € 73.39

KEYWORDS:

emerging technologies, technology, science, tech, cybersecurity, risk management, artificial intelligence, AI, quantum, quantum computing, robotics, 5G, space, Black Swans, innovation, government, industry, strategic frameworks, future, national security



www.riverpublishers.com
marketing@riverpublishers.com